CLAIMS

1. An active matrix array device (10) comprising:

a plurality of charging conductors (32);

a plurality of addressing conductors (22) crossing the plurality of charging conductors (32) ; and

a plurality of matrix array elements (100), each matrix array element (100) comprising a first switch (110) having a control terminal coupled to an associated addressing conductor (22) and a data terminal coupled to an associated charging conductor (32), each matrix array element (100) further comprising:

a first capacitive device (120) coupled to a further data terminal of the first switch (110);

a second capacitive device (130) coupled to the first capacitive device (120) via a second switch (112) having a control terminal responsive to an enable signal, the second capacitive device (130) having a smaller capacitance than the first capacitive device (120); and

a third switch (114) coupled between the first capacitive device (120) and a potential source, the third switch (114) having a control terminal coupled to the second capacitive device (130).

2. An active matrix array (10) device as claimed in claim 1, wherein each matrix array element (100) further comprises a fourth switch (116) coupled between the first capacitive device (120) and the potential source, the fourth switch (116) having a control terminal being responsive to a further enable signal.

3. An active matrix array device (10) as claimed in claim 2, wherein the third switch (114) is coupled between the first capacitive device (120) and the fourth switch (116).

4. An active matrix array device (10) as claimed in claim 2, wherein the fourth switch (116) is coupled between the first capacitive device (120) and the third switch (114).

5. An active matrix array device (10) as claimed in claim 3 or 4, wherein the second capacitive device (130) comprises a first sub-device (132) and a second sub-device (134), the first sub-device (132) having a first terminal coupled to an enable conductor (42) for providing the enable signal and a second terminal coupled to a data terminal of the second switch (112), the second sub-device having a first terminal coupled to the data terminal of the second switch (112) and a second terminal coupled to a further enable conductor (62) for providing the further enable signal.

6. An active matrix array device (10) as claimed in any of the preceding claims, wherein the potential source is provided via the associated charging conductor (32).

7. An active matrix array device (10) as claimed in claim 2, wherein each matrix array element (100) further comprises a fifth switch (118) having:

a control terminal responsive to a read-enable signal;

a first data terminal coupled between the third switch (114) and the fourth switch (116); and

a further data terminal coupled to a read-out conductor.

8. An active matrix array device (10) as claimed in claim 4, wherein the second switch (112) is of a different channel type than the fourth switch (116), the control terminal of the second switch (112) and the control terminal of the fourth switch (116) being coupled to a common conductor (42).

9. An electronic device (500) comprising:

an active matrix array device (10) comprising:

a plurality of charging conductors (32);

a plurality of addressing conductors (22) crossing the plurality of charging conductors (32); and

a plurality of matrix array elements (100), each matrix array element (100) comprising a first switch (110) having a control terminal coupled to an associated addressing conductor (22) and a data terminal coupled to an associated charging conductor (32), each matrix array element (100) further comprising:

a first capacitive device (120) coupled to a further data terminal of the first switch (110);

a second capacitive device (130) coupled to the first capacitive device (120) via a second switch (112) having a control terminal responsive to an enable signal, the second capacitive device (130) having a smaller capacitance than the first capacitive device (120); and

a third switch (114) coupled between the first capacitive device (120) and a potential source, the third switch (114) having a control terminal coupled to the second capacitive device (130);

the electronic device (500) further comprising:

drive circuitry (20) for driving a plurality of signals onto the plurality of addressing conductors (22);

further drive circuitry (30) for driving a plurality of further signals onto the plurality of addressing conductors (32); and

a power supply (52) for powering the drive circuitry (20) and the further drive circuitry (30).

10. A method of operating an active matrix array device (10) having a plurality of matrix array elements (100) including first and second capacitive devices (120; 130), comprising:

storing a first voltage across the first capacitive device (120) of a matrix array element (100);

storing the first voltage across the second capacitive device (130) of the matrix element (100);

replacing the first voltage across the first capacitive device (120) of the matrix array element (100) with a second voltage; and

depending on the magnitude of the first voltage stored across the second capacitive device (130), enabling a current path between the first capacitive device (120) and a potential source for replacing the second voltage across the first capacitive device (120)with a third voltage.